REMARKS

Claims 1-13 are pending in this application. The Office Action rejects claims 1-11. By this Amendment, claims 1 and 4-7 are amended and claims 12 and 13 are added. Support for the amended and new claims can be found in the original claims and in the specification at least at page 8, line 29-page 9, line 1; page 9, lines 6-7, 13 and 21; and page 10, lines 25-27. Thus, no new matter is added. In view of the amendments and the following remarks reconsideration and allowance are respectfully requested.

I. Rejection Under §112

The Office Action rejects claims 5, 7, 9 and 11 under 35 U.S.C. §112, second paragraph. The Office Action states that there is insufficient antecedent basis for "the corresponding orifice" feature in claim 5. The Office Action also alleges that the phrase "the orifice in a lower side region has a diameter smaller than that of the corresponding orifice in an upper side region" is unclear and in claim 7 it is unclear what is meant by "lower side region" and "upper side region." Applicants respectfully traverse the rejection.

Amended claim 5 no longer recites "the corresponding orifice" thus rendering moot this aspect of the rejection.

Amended claims 5 and 7 recite claim features that include the terms "upper region" and "lower side region." Amended claims 5 and 7 further define the upper and lower regions in a "generatrix direction of an outer circumference of the peripheral wall." These terms are defined in the specification at least at page 7, lines 13-16 and lines 23-27, and in Fig. 3. One of ordinary skill in the art would understand these terms.

Claims 5 and 7, and claims 9 and 11 dependent thereon respectively, satisfy the requirements of 35 U.S.C. §112, second paragraph. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

II. Rejection Under §103

A. Houpt and Slayter

The Office Action rejects claims 1-4, 6, 8 and 10 under 35 U.S.C. §103(a) over U.S. Patent No. 5,514,199 to Houpt ("Houpt") in view of U.S. Patent No. 3,026,563 to Slayter et al. ("Slayter"). Applicants respectfully traverse the rejection.

Claim 1 is directed to a process for producing glass fiber that includes ejecting a compressed fluid in a direction at an acute angle relative to a flame flow including secondary fibers, to collide the secondary fibers with the compressed fluid, so as to cut the secondary fibers to a controlled length. Claim 4 is directed to an apparatus for producing glass fiber that includes an ejecting nozzle around a drawing burner, the ejecting nozzle concentrically arranged above and around a peripheral wall of a rotating member, and having an ejecting outlet opened in a direction at an acute angle relative to the generatrix direction of the outer circumference of the peripheral wall. Houpt and Slayter do not teach this process or apparatus.

The specification discloses, with reference to Figure 5, that in the collision or impact of the secondary fiber and the compressed fluid, it is desired that the ejecting flow of the compressed fluid (S) does not affect the temperature of a bottom edge (R) of the peripheral wall (2), and that the fluid does not disturb the flame flow (G). If the angle α of the ejecting direction of the compressed fluid (S) is obtuse, the flame flow (G) is disturbed so that the fibers in the flame flow collide with one another. As a result, the fibers can suffer from deteriorated quality, such as density fluctuation and interlocking.

Houpt and Slayter do not teach or suggest a method or apparatus that utilizes compressed fluid ejected at an acute angle as claimed. Moreover, Houpt and Slayter do not even recognize the problems associated with the ejecting flow of the fluid and thus cannot teach or suggest solutions to that problem.

Nowhere does Houpt teach or suggest a method or apparatus for producing glass fibers that includes ejecting compressed fluid at an acute angle relative to the flame flow and secondary fibers, as claimed. Contrary to the position taken in the Office Action, Slayter also does not exemplify the production of glass fibers using a compressed fluid ejected at an acute angle. First, nowhere does Slayter expressly disclose a method using the ejection of fluid to the glass fibers. Second, in Fig. 1, Slayter illustrates an apparatus that appears to eject fluid, but at an angle of 67° relative to the generatrix direction of the outer circumference of the peripheral wall of the rotating member. Since the angle is 67°, the flame flow, and the fibers in the flame flow, are disturbed so that the fibers collide with one another, as described above. Slayter's apparatus does not teach or suggest using a compressed fluid ejected at an acute angle, as claimed.

For at least these reasons, Houpt and Slayter would not have taught or suggested to one of ordinary skill in the art the claimed apparatus and method. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

B. Huey and Slayter

The Office Action rejects claims 1-4 under 35 U.S.C. §103(a) over U.S. Patent No. 4,636,234 to Huey et al. ("Huey") in view of Slayter. Applicants respectfully traverse the rejection.

The Office Action states that Huey discloses a bushing or a spinning rotor having non-circular orifices, and refers to Fig. 14. However, Huey discloses that in fact these orifices are situated in the bushing bottom wall (12). Huey discloses that "the bushing bottom wall contains trilobal orifices 28," (see, col. 5, lines 48-49), and that "as shown in Fig. 14, the bushing bottom wall (12) can contain both non-circular orifices 28a and circular orifices 34," (see, col. 8, lines 64-66). Importantly, the bushing 14 itself does not rotate.

Huey also discloses a rotating spinner 42 having non-circular orifices 48, each of which has the same dimensions, as illustrated in Fig. 16. However, Huey does not disclose a method that utilizes "a larger orifice and a smaller orifice arranged alternately in a circumferential direction of the rotating member in the peripheral wall," as claimed in claim 1, and does not disclose an apparatus the includes "a hollow cylinder-shaped rotating member having a peripheral wall alternately provided with a larger orifice and a smaller orifice in a circumferential direction of the peripheral wall," as claimed in claim 4.

For at least these reasons, and for the reasons detailed above, Houpt and Slayter would not have taught or suggested and would not have rendered obvious to one of ordinary skill in the art the apparatus and methods of claims 1-4. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

C. Rook and Slayter

The Office Action rejects claims 1-4 under 35 U.S.C. §103(a) over U.S. Patent No. 5,326,241 to Rook et al. ("Rook") in view of Slayter. Applicants respectfully traverse the rejection.

Rook does not teach or suggest a method or apparatus for producing glass fibers that includes ejecting compressed fluid at an acute angle relative to the flame flow and secondary fibers, as claimed. For at least the same reasons detailed in the above remarks, Slayter does not remedy the deficiencies of Rook to teach or suggest the methods and apparatus of claims 1-4. For at least these reasons, Rook and Slayter would not have taught or suggested and would not have rendered obvious claims 1-4 to one of ordinary skill in the art.

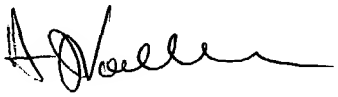
Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-13 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below.

Respectfully submitted,



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